

REMARKS

The Examiner has objected to the drawings, on the ground that Figure 1 does not indicate section lines labeled to correspond with the figure number of the sectional view. Applicant attaches a replacement sheet of drawing, in which Figure 1 has been corrected. The labels A-G have been replaced by Roman numerals II-VIII. The Roman numerals correspond to the figure numbers pertaining to each respective sectional view.

Applicant has also amended the specification to conform it to the changes made to Figure 1. No new matter has been added.

Applicant therefore submits that the objection to the drawings has been overcome.

The Examiner has rejected the claims as unpatentable over either Philipp or Grohninger, or both. Applicant has amended Claim 11, the only independent claim in the application, to include the limitations of Claim 12, and Claim 12 has been cancelled as redundant. Applicant submits that Claim 11 is allowable for the following reasons.

1. The Patent to Philipp

Philipp teaches an orthopedic insole that modifies bearing areas of deformed feet. The insole must be adaptable to various deformities of the feet, in order to relieve diseases of the knee, the hip, and/or the spine, which diseases may result from an incorrect static positioning.

The present invention, by contrast, provides an insole for a healthy foot. The insole of Philipp is not made for, and not used by, a healthy foot, for the purpose of improving stability of the healthy foot during normal movements.

Exhibit A, attached, provides a convenient comparison between Figure 9 of the present invention, and Figures 3-5 of Philipp.

Note that the areas I, in Philipp, of lower stiffness or hardness (see column 4, lines 35-36) do not correspond to the major bearing regions of Figure 9 of the present invention (and which are now precisely claimed in Claim 11).

The present invention provides distinct and separate bearing areas 6 and 7 that distinctly lie under the toes and under the metatarsal heads, respectively.

In Philipp, the bearing areas corresponding to the metatarsal heads 26-30 of the present invention (as shown in Figure 9) lie simultaneously in areas I and III having different amounts of stiffness or hardness. Moreover, there is no contour flanking the areas I and III.

As a consequence, the transition from one value of stiffness or hardness to another disturbs the bearing of metatarsal heads. Areas 45, 11, and 35, of Philipp, intended to lie under the heel, are too small and therefore do not correspond to the actual heel bearing region of a healthy foot. In Figures 3-5 of Philipp, the areas of medium stiffness or hardness, i.e. areas 5, 38, and 48, are broader than bearing region 33 of the present invention (see Figure 9). The selective bearing between the bearing region 33 and the longitudinal arch of a healthy foot is then disturbed.

Claim 11 requires that the bearing regions have a stiffness or hardness which is lower than that of the other regions of the plantar surface. Claim 11 also specifically recites the locations of each of these bearing regions. These locations do not correspond to what is shown in Philipp. For example, the regions of Philipp corresponding to the metatarsal heads lie in areas I and III. Area I has the lowest hardness,

and area III has the greatest hardness (column 4, lines 35-38). Thus, at least some of the region under the metatarsal heads, in Philipp, does not have a stiffness which is lower than that of the other regions. Therefore, the regions shown in Philipp do not meet the requirements of Claim 11.

The same conclusion applies to the heel. The heel portion in Figures 3 and 4 of Philipp spans areas I and III. But area III has the greatest hardness, not lowest hardness. Thus, Philipp again fails to meet the requirements of Claim 11.

In summary, Claim 11 recites specific bearing regions having lower stiffness or hardness. The corresponding areas of Philipp have either lower or greater hardness, and the pattern taught by Philipp is entirely different from what is recited in Claim 11. Applicant therefore submits that Claim 11 is patentable over Philipp.

2. The Patent Application of Grohninger

The patent application of Grohninger aims to provide a low-cost insole having an area whose stiffness or hardness can be changed and adapted to the needs of a user.

Exhibit B, attached, provides a convenient comparison between Figure 9 of the present invention and Figure 1a of Grohninger.

As can be seen from Exhibit B, the bearing area of tank 6 (which is filled with a gas or a liquid) does not correspond to the major bearing regions of the foot according to the present invention. In fact, there is no bearing area underlying the toes of the foot, in the Grohninger reference.

Moreover, there is no indication in Grohninger of the stiffness or

hardness of the bearing area of the tank 6. One cannot know whether this hardness or stiffness is greater than, or less than, the stiffness or hardness of the other areas of the insole.

Considering that tank 6 is preferably filled with water, and considering the incompressible nature of water, bearing area 6 can have a greater stiffness or hardness than the other areas when it is fully filled. Recall that Claim 11 requires that the specific bearing regions have a lower stiffness than the remaining regions.

Thus, Grohninger does not teach or suggest the features now present in Claim 11. Eventually, when tank 6 is only partly filled, the fluid will freely flow in the tank, each time the user takes a step while running or walking. These flowing movements induce rolling and/or pitching movements that cause instability of the foot during running and walking. Such an arrangement cannot prevent movement of the foot relative to the shoe during walking, running and lateral or rotational movements during changes of direction.

In summary, Grohninger does not teach or suggest the features recited in Claim 11. Claim 11 is therefore believed allowable over Grohninger.

3. The Rejections under Section 103

The problem solved by the present invention is that of providing an insole which can be fitted to most footwear, to provide effective damping of shocks to the foot when walking or running, and simultaneously excellent stability of the foot in the shoe to prevent movement of the foot relative to the shoe during walking or running, and lateral or rotational movements during changes of direction (see the specification, page 3, lines 5-12).

Philipp discloses an orthotic insole. An "orthotic" device is one which corrects a deformity. The patent to Philipp is exclusively directed to alleviating deformities of the feet. See Philipp, at column 1, lines 45-47, 52-57. The present invention, by contrast, concerns healthy feet.

Therefore, the person skilled in the art would not be inclined to consider Philipp in order to solve the problem of the present invention. The present invention does not deal with orthotics, i.e. the correction of deformities. Instead, the present invention provides an insole which improves the comfort of, and prevents damage to, a healthy foot.

A person skilled in the art would also not derive the present invention from Grohninger. The insole structure of Grohninger induces rolling and/or pitching movement that causes instability of the foot while running and walking, and cannot prevent movement of the foot relative to the shoe while walking or running, or lateral or rotational movements during changes of direction.

Finally, even if the person skilled in the art tried to combine Philipp and Grohninger, that person would not obtain an insole having the specific features now recited in Claim 11, since neither reference discloses these features, as explained in detail above.

For the reasons given above, Applicant submits that Claim 11, as amended, is in condition for allowance. The remaining claims depend, directly or indirectly, from Claim 11, and are therefore also believed allowable. Applicant requests reconsideration by the Examiner, and early favorable action.

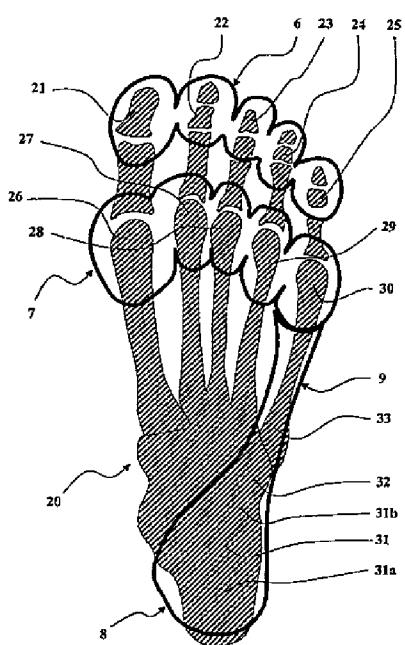


FIG. 9

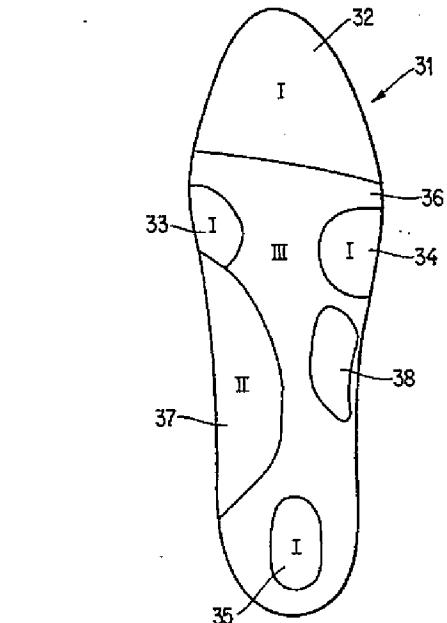


FIG. 3

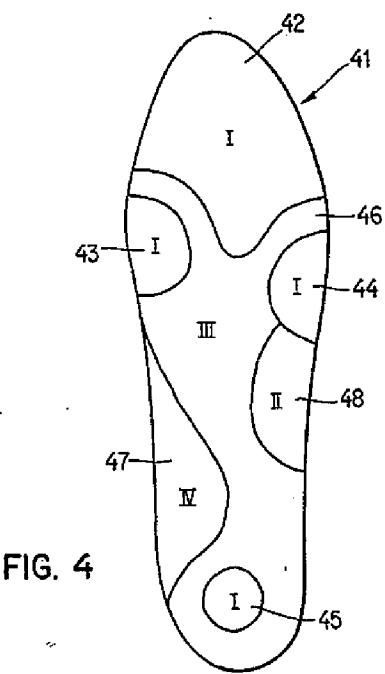


FIG. 4

US 5,014,706

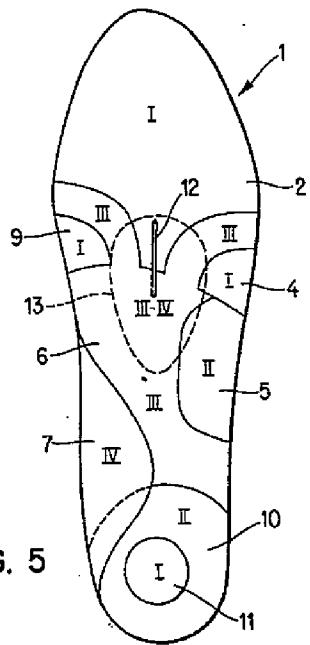


FIG. 5

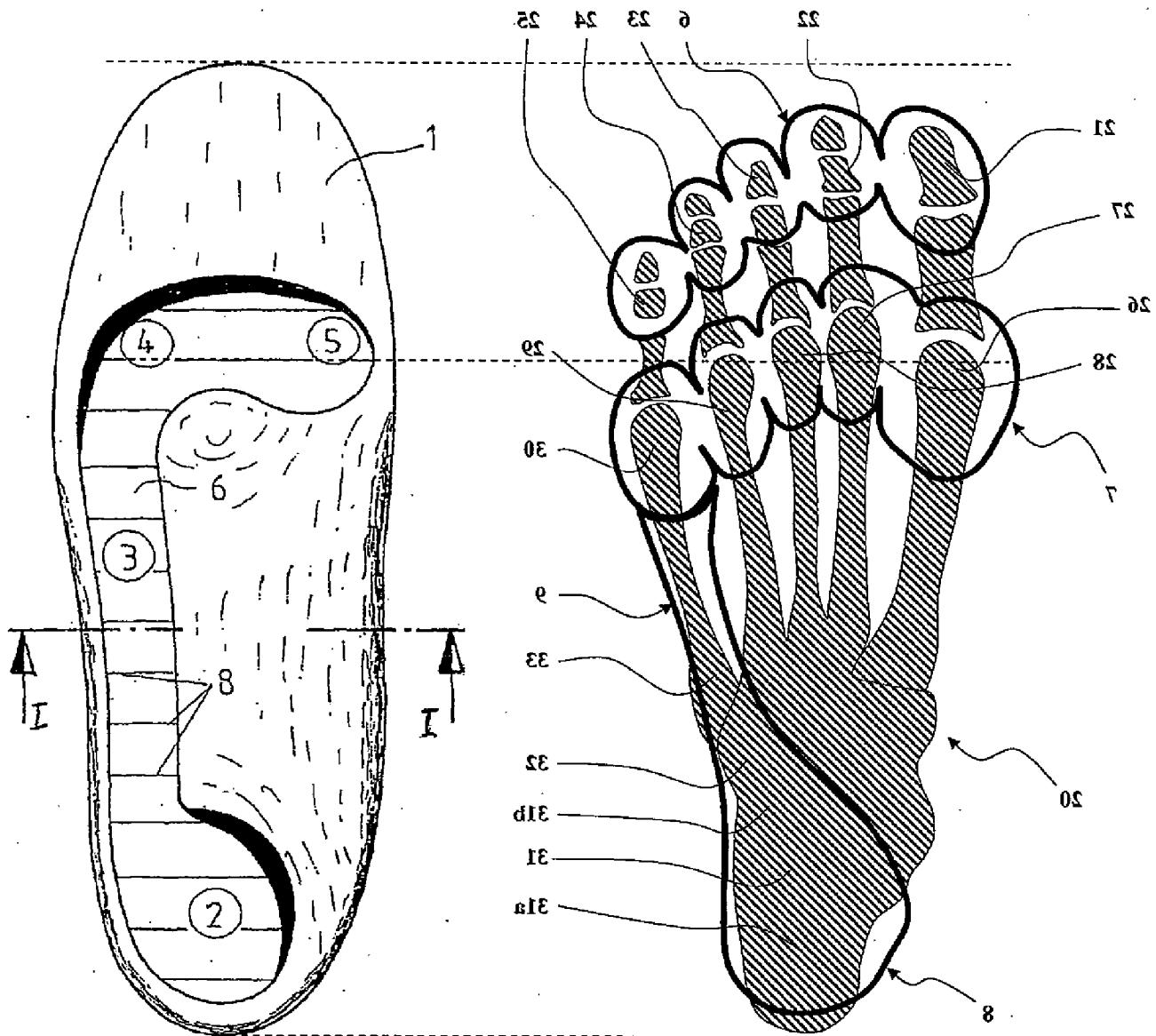


Fig. 1a

US 2003/0061738 A1

Invention